



Course Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Course Title: ENGINEERING PROJECT 2

Course ID: ENGIN4002

Credit Points: 30.00

Prerequisite(s): (ENCOR4100 or ENGIN4001)

Co-requisite(s): Nil

Exclusion(s): (ENCOR4200)

ASCED: 039999

Description of the Course:

This course enables students to use knowledge acquired during their studies to undertake the second part of their chosen engineering research project. In the process, students will employ hands-on, analytical and computing skills relevant to their fields of studies. Students will finalise their survey of relevant literature and present their findings in a dissertation.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory						
Intermediate						
Advanced				✓		

Learning Outcomes:

On successful completion of the course the students are expected to be able to:

Knowledge:

- K1.** Plan and lead an engineering research project.
- K2.** Demonstrate an ability to apply critical and independent thinking.
- K3.** Explore and interpret the ethics and norms that guide engineering practice (including professionalism, innovation and adaptability).
- K4.** Recognize the importance of version control when undertaking engineering research.

Skills:

- S1.** Demonstrate proficiency in project management tools and concepts.
- S2.** Critically analyse scientific material to effectively synthesize information and/or ideas.
- S3.** Demonstrate an ability to effectively manage time and resources (independently and/or as a member of a team).
- S4.** Demonstrate an ability to effectively communicate (both written and oral) with others within the engineering community.

Application of knowledge and skills:

- A1.** Demonstrate the knowledge and skills needed to solve contemporary and emerging engineering challenges.
- A2.** Apply developed analytical skills to assess and infer engineering data.
- A3.** Prepare a complete critical analysis of the chosen engineering research topic.

Course Content:

Topics may include:

- Structuring and drafting of a research thesis.
- Producing a research paper out of the thesis work.

Values:

- V1.** Understand the importance of communication to the profession of engineering.
- V2.** Understand engineering as a field which strives on the ethos of continuous and lifelong learning.

Graduate Attributes

The Federation University Federation graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, S1, S2, A1-A3	1, 2
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	K1-K3, S1-S3, A1-A3	1, 2
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K3, S3, S4, A1-A2	1-3
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	K3, K4, S2,-S4, A2	1-3
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	K1-K3, S1, S3, A1	1, 2

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-K3, S1, S3, S4, A1	A short presentation or report in the early weeks of the semester on the progress, which has been achieved thus far in the research project.	Progress report	10 - 15%
K1-K4, S1-S4, A1-A3	Production of a complete and original written dissertation	Dissertation	70 - 80%
K1-K3, S2-S4, A1-A3	Oral presentation outlining the research project findings	Presentation to a panel of academics and peers	15 - 25%

Adopted Reference Style:

Other (IEEE: Refer to the library website for more information)

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)